

Sir John Hamilton Bart

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ON MEDICAL EDUCATION.

(From the *Edinburgh Medical and Surgical Journal*, No. 92.
Continued from No. 91.)

WHEN the former part of this article was prepared for publication, the author was fully aware of the delicacy of the task he had undertaken. He had to come into collision with the opinions or interests of several individuals, and of public bodies, with all of whom he stood in various relations of connexion. He took the step, unprecedented in the *Journal*, of subscribing his initials to the article, to take upon himself the whole responsibility of every statement, and of all the arguments. About the light in which the latter might be viewed, he was comparatively indifferent, as the readers were capable of judging for themselves; but in regard to the former he was exceedingly anxious, and took every pains to be accurate, not only from the love of truth, but because he knew well that even the slightest inaccuracy would not escape detection and exposure.

As the author anticipated, the article has not passed without animadversion. In the report of the proceedings of the Town Council of March 28, published in the *Edinburgh newspapers*, it appeared that it had been noticed and commented upon at the board of that body, whose decisions on the points at issue were of so much importance to the university and the country. The author, desirous to be corrected in any error or omission in his statements, thought it incumbent on him, however reluctantly, to address the following letter to the gentleman by whom the remarks were said to have been made.

Dr DAVID HAY, Surgeon,

MY DEAR SIR,

I see by the report of the Town Council proceedings in the *Courant Newspaper* of Thursday last, that you took notice of an article on Medical Education in the last number of the *Edinburgh Medical and Surgical Journal*, which was written by me.

As in that article I endeavoured to be as accurate in the statement of facts as possible, and as you have represented my statement, in regard to the dispute and law-suit between the Patrons and Senatus, as being essentially defective, I beg you to do me the favour to point out those deficiencies as to matters of fact which you consider as essential, in order that I may either correct my statement in the continuation of the article in the next number, or else

insert your objections to it with such remarks thereon as may occur to me.—Yours most truly,

ANDREW DUNCAN JUNR.

45, York Place, 30th March 1827.

To this letter the following answer was next day received, which, in conformity to promise, is sent for publication, with a few notes chiefly upon the matters of fact.

MY DEAR SIR,

7, Queen Street, 31st March 1827.

As the report in the Courant of Thursday does not contain the whole of my statement to the Council, I think it due both to you and to myself to afford you a copy of what I actually stated on the occasion. "I begged leave to call the attention of the Council to an extract from the number of the Edinburgh Medical and Surgical Journal now published, and which I believed had been sent to all the members.

"This extract professed to be a review of certain essays on the subject of medical education, but commenced with what is called a short historical account of the circumstances connected with the disputes betwixt the Patrons and the Professors of the University regarding their respective rights.

"This statement, or historical account, I conceived to be uncalled for and indelicate at the present time, whilst the discussion was pending in a court of law; but, lest it should influence the opinions of those members of Council who had lately joined that body, I recommended them to consult the documents and correspondence in possession of the Council, from which they would see that the statement given was essentially defective, and calculated to produce an erroneous impression.

"I felt satisfied that the Council, as Patrons of the University, had acted from no other motive than the wish to promote the public good, and the welfare of the medical school of Edinburgh; and I should be much deceived indeed if the Royal Commission, after the accurate and minute investigation they had commenced was completed, did not give them full credit for their anxious endeavours to advance the interest of the university of which they are the Patrons.

"With regard to the other subjects contained in the review, I did not presume to offer any remarks, being fully assured that the Royal Commission would judge impartially of, and give effect to that course of education which, from the evidence they received, appeared to them the best fitted for the learned professions, without looking to any other circumstances than those which regard the respectability of these professions and the good of the community."

These are nearly the *ipsissima verba* which I made use of; and I certainly should not have made any statements at all, had your paper not been circulated amongst the members of the Council. I did not attempt to influence the opinion of any individual, but considered it my duty, as having been a member of the Council when

the unhappy disputes were proceeding, to call on the younger members of the Council to form their own opinions by consulting the documents in their power.

I conceive any discussion or correspondence on this subject betwixt the Council, or individual members of it, and the professors, to be as improper as it is unnecessary at the present time, and therefore trust that you will excuse my wish to decline your request.— I have the honour to be, my dear Sir,

Your most obedient servant,

TO DR DUNCAN JUNR.

DAVID HAY.

We shall now make a few observations in reply to this letter ; 1st, In regard to the reasons stated for taking notice of the preceding part of this article in a meeting of the Town Council ; and, 2dly, In regard to the reasons given for declining to point out the asserted deficiencies in our statement.

The article is said to have been noticed only because copies of it had been sent to the members of the Town Council, and in order to caution the younger members against being misled by a statement essentially defective, and calculated to produce an erroneous impression, and to call upon them to form their own opinions, by consulting the documents in their power. In reply, it may be stated that it was an act of respect, if not of indispensable justice, to the members of the Town Council, to transmit to them copies of an article, in the effect of which, however slight, on the public mind, they are much concerned ; and that it was not incumbent on us, even if we thought our own article defective, to suppose that any member of Council could be misled by a statement inconsistent with documents in their possession, or that they would have failed in their duty so far as not to have made themselves acquainted with the history of an important proceeding carrying on in their name, and by their authority. Nor can we avoid remarking, that the want of information here admitted on the part of those members of Council who had recently joined that body, is a strong confirmation of the arguments by which we endeavoured to show that a fluctuating body, such as the Town Council, is not qualified to regulate those details of university discipline, which ought to be of great durability, and which, in every similar institution, belongs exclusively to the senate, or some permanent authority.

In reference to the allegation that our statement is defective, it happens, rather remarkably, that the (official?) report of the very speech, not a long one, in which this allegation is made, is stated by its author to be essentially defective. It is evident that every statement which attempts to condense in a few pages; what at full length would occupy many sheets, might be easily enlarged ; but after carefully reconsidering our statement, we are

still at a loss to understand wherein the alleged essential defect lies. Anxious, however, to correct any error into which we might have unintentionally fallen, we did not hesitate to solicit a communication of the individual points upon which the general charge was founded ; but our request was declined for reasons which appear to us totally unsatisfactory.

We were told that any discussion or correspondence betwixt the Council, or individual members of it, and the professors, would be as improper as it is unnecessary at the present time ; and the Council were even informed that our statement, or historical account, was uncalled for and indelicate at the present time, whilst the discussion was pending in a court of law.

We shall not cavil at the use of the term *Professors*, although our statement was written in the capacity of *Reviewers*, and contained nothing that any person, not a Professor, might not have known ; but we maintain that we were entitled, in common justice, to demand a communication of the specific grounds upon which such a general charge was made against us, first in the Town Council, and then at the bar of the public.

In making such a charge all considerations of indelicacy and impropriety were completely set aside, and cannot be afterwards resorted to as a defence against the consequences of such a step. But we assert that our statement was rendered absolutely necessary to put a stop to the misrepresentations industriously propagated by persons apparently not very well-disposed to the university, or to the medical faculty in particular. Our statement was public, and for its accuracy we made ourselves responsible.

As to the indelicacy of giving accurate information to the public concerning the origin of the discussion between the Patrons and Senatus, whilst it was pending in a court of law, we have to state, that we carefully avoided making a single remark on the legal questions at issue, that imperfect accounts had been previously published, and that the public, distracted by conflicting rumours, was entitled to an authenticated statement. The history of the transactions which led to the trial of the legal question of the power of the Town Council over the Academical Regulations interests the medical profession generally ; and it interests the medical professors more especially, (whatever be the result of the suit at law,) to show that they were not unmindful of the character of the university, or the credit of its degree, and that it was not on light grounds, nor without due consideration of the consequences, that they, in concurrence with all of their colleagues, (the professor of midwifery excepted,) determined on resisting the demand of the patrons. But at all events, if there were any indelicacy in the matter it does not attach to us in the smallest degree.

The first communication to the public of the unfortunate differences between the Senatus and their Honourable Patrons was transmitted from the Town Council, whether officially or not, we cannot say. It appeared originally in the Scotsman, and was copied by the other Edinburgh Newspapers.

“ Town Council.—At an extraordinary meeting of the Council held yesterday, the opinions of the Dean of Faculty and Solicitor General were read, as to two points long in dispute between the Council and the Senatus Academicus. These two lawyers were of opinion, that the power of raising the students’ fees, claimed by the Senatus, belongs exclusively to the Council, and also the power of regulating what professorships shall belong to the various faculties. This latter question arose out of the recent annexation of Dr Hamilton’s chair to the Faculty of Medicine. Some discussion followed; but it was agreed to let the matter lie over for consideration till this day.”—Scotsman, September 14, 1825.

As this paragraph was calculated to mislead the public, it was immediately met by the following counterstatement, the accuracy of which has not been questioned, and is unquestionable. We have printed the discrepancies in italics.

“ University of Edinburgh.—We are requested to state that the account of the proceedings at an extraordinary meeting of the Town Council, in reference to the Senatus Academicus, which appeared in our paper on Thursday last, is altogether erroneous. That statement was copied from the Scotsman; and we have authority to say, that neither of the two points said to have been long in dispute between the Council and the Senatus Academicus has been under discussion between those bodies; and no mention is made of the only point which really has been under discussion, viz. Whether the course of study necessary for becoming a candidate for a degree shall be regulated by the Senatus Academicus, as in all other universities, and hitherto in our own, or by the Town Council.”—Edinburgh Evening Courant, September 17, 1825.

The Scotsman, to which a similar communication was also sent, inserted its substance, and very handsomely added a request, that the papers which copied from them the former notice would copy the corrected statement, thus admitting that their former statement was not correct.

It may be said that this first communication was previous to the commencement of the law proceedings; but this defence will not avail; for, after the summons against the Principal and Professors was issued at the instance of the Honourable Patrons, partial statements concerning it continued from time to time to be inserted in the newspapers, under the title of Town Council Proceedings, which, from the deliberations of that body taking place with shut doors, could be communicated only by one of

themselves, or authorized by them. The charge of indelicacy and impropriety recoils, then, from us upon some individual connected with the Town Council; and it is with peculiarly bad grace that our taking the same mode of defending ourselves should be censured in that body which allowed the repeated aggression by one of themselves to pass unnoticed.

The truth is, that the transactions in question have been matter of pretty general public discussion, though often misrepresented, for some time past, both before and since the dispute was brought into the courts of law. Dr Hamilton published and circulated various papers connected with them; and Dr Thomson, in his first pamphlet on Medical Education, not only alluded to the dispute then in existence, (though not yet before the courts,) but actually anticipated its decision against the university; addressing himself to the Patrons, as well as the Professors, although the interference of the former in such matters was known to be unprecedented; and the same title-page was prefixed to his Additional Hints, published after the legal proceedings were far advanced, and the Royal Commission in existence. Dr Clark, also, pending the law-suit, uses the same address. We are not aware that any of these proceedings were complained of as indelicate or improper; but, as Sancho says, "it is safer for one man to steal a horse than for another to look over a hedge."

The Professor of Clinical Surgery in this university has also honoured us with his notice.* He objects to our having said that the President of the Royal College of Surgeons is at the head of another, and in some respects a rival school of professional education. But his whole argument proceeds upon a misconception, as if we had represented the Royal College of Surgeons as a *hostile* school. On the contrary, we consider that the fair competition existing between the two schools is advantageous to both; but we must repeat, that they are in some respects *rival* schools. They both grant professional diplomas, and the same curriculum of study is not required by both.

We now proceed with the other subjects noticed in the pamphlets under review.

Dr Thomson suggests, as an improvement on the constitution of the Faculty in the University, strictly medical, Whether "the duties at present performed by the Professor of the Theory of Medicine should not be assigned to two distinct professors at least—Physiology to the one, and Pathology to another?" The

* Remarks concerning the Professorship of Surgery and Private Lecturers, addressed to the President and Fellows of the Royal College of Surgeons of Edinburgh. By James Russell, F. R. C. S. E. Professor of Clinical Surgery. Pp. 14. 8vo, Edinburgh, 1827.

Professor of Midwifery takes a very different view of this subject of medical instruction ; for in his famous Memorial to the Honourable Patrons, he broadly asserts, that “the students can derive from that individual Professor no additional knowledge which may enable them to cure disease.” Who shall decide when doctors disagree ? On this occasion at least, we may say *Medio tutissimus ibis*. Leave well alone.

The next subject discussed in the pamphlets whose titles are prefixed to this article, which requires any notice, is the proposal to institute a Professorship of Surgery distinct from that of Anatomy. This has long been our own opinion ; and, as a mere matter of expediency, we should recommend their separation, if the consent of the present professor of anatomy and surgery could be obtained ; for we cannot suppose that the Honourable Patrons, or even the Royal Commissioners, would think of interfering with the rights of the present Professor of anatomy and surgery. Notwithstanding our determination, in considering the various reforms upon medical education suggested in these pamphlets, to leave all legal considerations out of view, and to consider the questions abstractly, we cannot avoid saying, in opposition to Dr Thomson’s long argument, in which he is so tenacious of very doubtful corporation rights, that, from the terms of his commission, the right of Dr Monro to be professor of surgery so long as he lives, appears to us to be as complete and irrevocable as that of the professor of any other branch of knowledge in the university.

It would, however, be unjust to Dr Monro, if, in concurring with Dr Thomson as to the expediency of the measure, we took advantage of the mistake into which the latter has somehow fallen, in supporting his views on the ground of precedent. He doubts whether there will be found on the continent of Europe a single instance of an university containing a medical school, in which one professor is charged with the duties of teaching both anatomy and surgery ; and he cites the universities of Bologna, Breslau, Bonn, and Berlin ; of Freiburgh, Giessen, Greifswald, Gottingen, and Geneva ; of Halle and Heidelberg ; of Leipzig, Marburg, Moscow, and Munich ; of Paris, Padua, Pavia, and Pisa ; of Rome, Turin, Vienna, and Wurzburg, as places where anatomy and surgery are taught by separate professors. In regard to most of these Dr Thomson is correct, but as to others we know that he is mistaken. We have not time to consult the programmes of all the continental universities, but in those at hand we find the following exceptions to Dr Thomson’s statement. At Gottingen, “C. J. M. Langenbeck, Dr. *Anat. et Chirurg. Prof. hora i. ii. demonstrationes anatomicas, in quibus*

splanchnologia, angiologia et neurologia pertractabuntur ex libro suo (anatomisches Handbuch tabellarisch entworfen) et iconibus suis anatomicis subsidiis instituet; hora ii. iv. in secundis cadaveribus auditores instituet; hora vi. vii. p.m. chirurgiæ alteram partem tradet; hora ix. x. exercitationes clinicas in nosocomio chirurgico diriget. Privatissime instituet, 1. Cursum chirurgico-manualem; 2. exercitationes operationum circa oculorum morbos suscipiendarum." At Rostock, Josephi teaches both anatomy and surgery; at Upsal, Adolphus Murray is professor of anatomy and surgery; in Greifswald, Rosenthal teaches anatomy and surgery; at Heidleberg, Fohmann. We also recollect that at Pavia Scarpa taught anatomy and clinical surgery, and he was previously professor of anatomy and surgery at Modena.

As soon as a distinct professorship of the principles and practice of surgery shall be established, the chair of Military Surgery will be rendered superfluous, and should be absorbed into the other. In fact, the peculiar province of this chair has no more connexion with surgery than with medicine. In Berlin, it is entitled Military Medicine, and sometimes it has been called Military Hygiene. It is also understood to embrace the professional care of seamen as well as of soldiers. As the most practicable method of immediately extending the surgical instruction given in the university, we suggest, for the consideration of those concerned, that a new commission should be issued, nominating the present incumbents of these chairs joint professors of the principles and practice of surgery, with such reservations for supplying vacancies as may be thought most advantageous for the interest of the public.

The last branch of medical education discussed in the pamphlets upon which we shall make any remarks, is Clinical instruction, perhaps the most important of all.

The ultimate end of our varied study is to qualify us to practise medicine as a profession. In all probability, the first mode of instruction was clinical. A father would naturally carry his son along with him, as soon as he was old enough, to visit his patients, and to assist him, and would give him instructions to enable him to act as a substitute in his absence. Hence, among the Egyptians and other nations who retained their primitive customs, medicine, as well as other professions, became hereditary, by custom or legal enactment; and even to this day, from this natural cause, we see hereditary teachers as well as hereditary practitioners of medicine.

On other occasions, the assistance of servants would become necessary, and on the credit of having acquired some of his

knowledge and skill, on his decease, or when they found a fitting opportunity, they would set up for themselves, as the pupils of their master.

The progress from this stolen instruction to apprenticeship is easy and natural. The master would soon find it more for his interest to form a contract with his pupil, by which he would secure to himself his assistance for a considerable period of years, and in return would engage to instruct him as far as his opportunities permitted him. Accordingly, apprenticeship, under various appellations, became the general method of instruction in all the arts, and even some of the sciences, until the erection of the universities in various parts of Europe, in which might be received a liberal education, or an education without servitude. But in the universities an opposite fault was committed; for the instruction given in them erred in not being sufficiently practical. It was believed that great learning and profound reflection were sufficient for the acquisition of knowledge; reasoning *a priori* was chiefly cultivated; and the conclusions of subtle minds were impressed dogmatically on their pupils, as the doctrines of the schools. With the progress of the inductive philosophy, however, scholastic learning gradually became less esteemed and now scarcely maintains a feeble existence, supported by foundations whose rules were fixed in less happy times.

The method of teaching medicine by clinical attendance seems to have been revived systematically by the monks, who were the original medical officers of the hospitals in the south of Europe. These charitable persons were attended in their visits to the sick by their younger brethren, to whom they gave instruction, and from whom they received assistance; but the first regular clinical lectures were probably given in Padua in 1578, and about a century thereafter, clinical instruction was established in the medical schools of Holland.—Dr Monro *Primus* attended the clinical lectures of Boerhaave in 1718, in imitation of which those of Edinburgh were instituted.*

Before the organization of the Medical School of Edinburgh,

* It is remarkable that John Peter Frank, in his extensive work on Medical Police, (*System einer vollständigen medicinischen Polizey*, 6ter Band, 1 Theil, 8vo, Wien, 1817,) should have conferred upon Edinburgh the honour of introducing the teaching of clinical medicine. Although not strictly true, this statement by one who has written on the best arrangement of clinical schools, (J. P. Frank, *Plan d'Ecole Clinique*, Vion, 1790,) shows the high estimation in which the clinical school of Edinburgh was very early held by the best informed on the continent:—"Until the eighteenth century the practice of the healing art, after the theoretical studies were completed, was to be learned by young physicians left to themselves, in the most laborious manner, and with the sacrifice of hundreds of patients; but this evil has certainly been greatly diminished by the practical instruction communicated to young physicians, by experienced practitioners at the bedsides of the patients, *first in Edinburgh*, and then in Leyden and Pavia, and soon afterwards in other places."

an inhabitant of this kingdom was obliged to resort to foreign countries to receive a liberal education ; and the Royal College of Physicians of London was formerly composed chiefly of foreign graduates, though now restricted to those promoted in the English universities.

In as few words as possible, we shall give the history of the origin and rise of the medical school of this city.

Although a professorship of botany was founded in 1685, and the appointment conferred upon Sir Robert Sibbald, Bart. who has thus the honour of being the first professor of medicine in the University of Edinburgh,—a professorship of anatomy in 1705, to which Mr Elliot was nominated,—and a professorship of chemistry in 1713, which Mr James Crawford first enjoyed, nevertheless the date of the origin of the Medical School of Edinburgh may be fixed at 9th February 1726. At that time the Honourable Patrons of the University granted a commission to Andrew Sinclair and John Rutherford, doctors of medicine, to be professors of the theory and practice of medicine, and to Andrew Plummer and John Innes, doctors of medicine, to be professors of medicine and chemistry in the College of Edinburgh, with full power to all of them to profess and teach medicine in all its branches, as fully and freely as the said science is taught in any university or college in any country ; and bestowed upon the said professors all the privileges, liberties, and immunities that were, or afterwards might be, enjoyed by the professors of any other science, and, particularly, with full power to them to examine candidates, and to do every other thing requisite and necessary to the graduation of doctor of medicine.—The professors so appointed were afterwards recognized by the Senatus as the Medical Faculty.

On the same day they nominated Mr Joseph Gibson as professor of midwifery in the city and privileges, but he does not seem to have been a member of the Senatus Academicus; neither at that time were the professors of botany and of anatomy. The professor of botany, however, became a member in 1738, when Dr Alston received a commission as professor of medicine and botany, and the professor of anatomy in 1756, when the Monros *Primus* and *Secundus* were admitted. Until 1767 the *Materia Medica* was taught by the professor of botany ; but on Dr John Hope's resignation of the former department, *materia medica* was erected into a separate chair, which was first held by Dr Francis Home.

The Royal Infirmary was founded in 1738 ; and when George Drummond became Lord Provost in 1746, soon after the battle of Culloden had restored confidence in the stability

of the government, one of his first acts was to institute clinical lectures in the Infirmary.

The interest of this institution was evidently interwoven with that of the university. The managers "resolved to adopt every measure that could tend to facilitate medical education, and to render it complete. They therefore permitted students of medicine, upon paying a small gratuity, to attend the hospital, that they might have all the benefit that could be derived from the practice of the physicians and surgeons. What the students paid for their admittance was allotted to the annual support of the house, and hath now arisen to a considerable sum. Farther, the managers, considering that the defect of clinical lectures in medical seminaries had often proved a ground of complaint, gave liberty to the professors of medicine to lecture on such cases of the patients as they should find most conducive to the instruction of the students."—(History of Royal Infirmary, p. 16.)

Dr John Rutherford, Professor of the Practice of Medicine, had the honour of delivering the first course of clinical lectures, in the winter session of 1746–47, which were attended by a great many students, (Scots Magazine, xii. p. 52,) and since that time they have been given uninterruptedly and regularly. Until about 1756 Dr Rutherford seems to have been the only professor who gave clinical lectures; but at that time his bad state of health rendered assistance necessary, and Dr Monro *Primus*, Dr Whytt, and Dr Cullen, undertook to supply his place; and as Bower, in his History of the University, rightly observes, perhaps no hospital was ever so appointed.

The clinical school of Edinburgh did not rise to eminence by slow degrees; but almost on its first institution became the most celebrated in Europe. Nor can we be surprised at the reputation it so rapidly acquired, when we recapitulate the names of those who have preceded the present clinical teachers in this charge, viz. Dr John Rutherford, Dr Monro *Primus*, Dr Whytt, Dr Cullen, Dr John Gregory, Dr Francis Home, Dr James Gregory, Dr Daniel Rutherford, Dr Andrew Duncan Sen.

Under the direction of these able teachers the clinical school of Edinburgh was for a long period esteemed as one of the first in the world, not only by those whose natural partiality might lead them to exaggerate its advantages, but also by dispassionate foreigners in works deliberately written upon the best modes of communicating medical instruction, or in Polemical Discourses, in which established institutions were subjected to a severe comparison with ideal perfection.

It is therefore not without some surprise, nor even without some feelings of indignation, that all at once we find some who might be supposed to be acquainted with its present state

representing it as behind the progress of the times, when compared with the clinical instruction in other universities, and as standing in need, not merely of reform, but of utter subversion, in order that another system may be substituted in its place.

The faults found with the present system by Dr Thomson and Dr Clark do not altogether coincide, and their plans of reform are likewise different. Dr Thomson would deprive the present members of the medical faculty of all connexion with the teaching of clinical medicine, and would confide it entirely to one individual nominated to that duty; while Dr Clark would leave to certain members of the medical faculty the present hospital clinic, with some modifications in its detail, but would require from medical graduates attendance on clinical surgery and a course of practical clinics.

By summing up what he considers as the defects of the present system of teaching clinical medicine in six propositions, Dr Clark will save us some trouble; and we now proceed to comment upon them *seriatim*.

His first objection is, that "the period of attendance required of the candidates for a medical degree is not sufficiently long to admit of his acquiring such a degree of practical knowledge as every graduate ought to possess." This defect Dr Clark proposes to remedy by extending the period of clinical instruction to three courses; the first to be entirely devoted to clinical surgery, the second to the hospital clinic, which is at present given at Edinburgh; and the third to the practical clinic. To this extension of clinical study, the chief and almost only objection is the increased time and expence which it would require the student to devote to his strictly academical studies. The extension of the period of the study of clinical medicine was at one time contemplated, and almost determined upon; but after much deliberation, it was relinquished, in order to leave to the students time and money to attend to other branches of academical instruction, and to prosecute their studies partly in hospitals, dispensaries, and other institutions not connected with universities.

In considering the amount of study required to obtain a professional degree, the distinction between compulsory and optional studies is not sufficiently attended to. The compulsory studies are, from a principle of liberality, reduced to the smallest amount possible; so that alone, they are, if at all, very rarely sufficient to complete a professional education. Optional studies, to a considerable amount, are followed by almost all of the students; and these they are left to take either from the professors, or private teachers, or by apprenticeship, or in places where there is no university. The very strict examination the

students undergo is in practice found to afford sufficient security for their course being rendered complete by optional studies.

The modes of regulating the studies for acquiring the highest degrees in medicine may be reduced to three. First, the completely compulsory, by which not only the total amount and duration of study necessary, but even the order in which it is to be taken, are fixed by enactment, as is the practice in Austria, France, Italy, and some other despotic states. Second, The absolutely free, which requires no compulsory studies of any kind, but leaves the information, the possession of which is to be ascertained by strict examination, to be acquired by the candidate in what manner, or order, in what time, or where he pleases. This was the case in Leyden, when Holland was a free country, and is still the case in the protestant Universities of the north of Germany. The third method is intermediate, when a certain period and amount of academical study are required. This is the practice of the Scottish Universities, of Dublin, and, we believe, of those of the United States; and we are inclined to think it the best. On this point we must be permitted to express our surprise at the recommendation that the regulations of the despotic governments on the continent should be introduced into this free country, and that we should be invited to take, in matters of education, the kingdom of the Netherlands, or of Sardinia, as a model. In such countries long and extensive courses of study, which cost the pupil little, and a certain fixed arrangement of the order in which each subject shall be studied, whether it be most for the advantage of the pupil or not, may be enforced without great injustice, as these regulations affect all alike who are to live by the same profession; and the practitioners, when licensed by the proper authorities, are protected in a monopoly of their profession; but the introduction of any such plan into our schools would be to retrograde violently in one of the most important objects of national policy, and to substitute in education, a subject which perhaps bears foreign interference less than any other, a restrictive for the present liberal system which distinguishes the policy of Great Britain from that of other European countries. What would our farmers think, if the Roman regulations in regard to the management of their lands were proposed to be adopted; if they were to be prohibited from sowing what grain they pleased, from irrigating one meadow, and even obliged to direct the waters upon another; to leave these fields fallow, and to plant those with vines according to positive regulations, and the judgment of government inspectors? They would treat the proposal with contempt, and would have no difficulty in convincing every person of common sense, that the interests of the whole community

would be best consulted, by leaving every one to use his own judgment in promoting his own interest. But the same liberal system is still more necessary in regard to education. Each individual is, upon the whole, the best judge of what he ought to study, and where he can study it to most advantage, with a view to the demands of the public, for which he is preparing himself, and to the competition which he has to encounter. We should have been less surprised had an opposite line of argument been taken, and universities and degrees declaimed against, as impeding the progress of knowledge, by an unjust monopoly and ridiculous titles; and indeed this argument is inconsistently pressed into the service on one occasion, when it is said "the members of the medical faculty seem hitherto to have forgotten, that it is the possession of a sufficient stock of preparatory and of professional knowledge, on the part of those who receive degrees and diplomas, in which the public is interested, and of very little consequence to it, in what schools this knowledge has been obtained."—Hints, p. 20.

The introduction of a compulsory uniform course of study would be attended with greater evils in Edinburgh than in almost any other school. It would almost destroy, or at least greatly lessen that competition with the many excellent private teachers, by which the exertion of the professors is secured under the present liberal system. A compulsory uniform course of study, like those in the despotic countries of the continent, would be necessarily complete within the University; a repetition of attendance on many of the essential branches would be enjoined, as in Paris, where anatomy, physiology, external pathology, internal pathology, clinical medicine, and clinical surgery, are each taken twice, leaving the student no time or occasion to attend non-academical lecturers, whom the pupil might prefer as furnishing the desired instruction either at a cheaper rate, or in a manner more suitable to his wants, or even as presenting a different view from the professors; whereas the Edinburgh Senate, by not requiring any class to be repeated in Universities, leaves the student at liberty to repeat the important branches, as they uniformly do more or less frequently, either in or out of the Universities, as may appear most to his advantage. A compulsory uniform course of study is particularly inapplicable to students, of whom a large proportion, as at Edinburgh, have already made some, and many considerable progress in their professional study, before they enter at the University. The extent of the monopoly exercised by the University is, that every candidate is required to attend in it, or any other school where the medical degree is given, each of the necessary classes once. Many are advanced in their studies be-

for their university attendance begins, and to them it is often most useful to renew their acquaintance with the elementary branches, by attending to them in the last year instead of the first.

Another great objection to a compulsory fixed course of study is, that it would greatly interfere with the free and useful competition which at present exists among different Universities, foreign as well as domestic. Many of those who at present obtain the degree of M. D. at Edinburgh have received part of their education at other schools, as Glasgow, Dublin, or Paris, and they arrange their studies so as to attend those branches in each place for which they are most celebrated; but under the compulsory system, wherever they were, they would be compelled to attend all the branches set down as the studies of that particular period of their progress, however much a different arrangement might be to their advantage. Upon this subject we take the liberty to extract a few sentences from a letter we have recently received from the conductor of one of the most esteemed medical journals of Germany, to whom we had written for information on some points about which we were not absolutely certain. "Until some years ago, there existed in all the Universities of Germany, (with the exception of Austria alone,) the indiscriminate liberty to the students to hear what lectures they wished, with whom, in what order, and even not at all, provided always they were able to bear an examination in presenting themselves for a degree from the faculty, at whatever time suited them. This liberty has been a little encroached on during the last ten or fifteen years. Students of medicine are obliged to prove a *triennium medicum*, &c. but all these limitations are enforced only on the natives of the different states of Germany, (Prussia, Saxony, Hanover, Hesse, Holstein, Mecklenburgh, Bavaria, Wirtemberg, &c.) Those who are not natives of those principalities, are in the same boundless state of liberty as formerly. Some of these states, though not all, have ordered that the students, wishing to be employed in public offices, must pass one or two years of the triennium in their own University, for the purpose of getting acquainted with the laws of the country, &c. Those of the students who prefer to hear no lectures at all, or those of private teachers, (though the greatest talents and means of instruction are found among the regular professors,) may do so; but they will run the risk of being more rigidly examined by the professors composing that faculty,"—"In Austria, the time and order of studies are fixed by law. The result is, that there has been a more scanty and less thorough information obtained, than in the rest of Germany. With us some have

learned nothing at all, but some have reached the highest pitch of instruction. In Austria, all know a little, but nobody is eminent in the profession."

The same opinion is strongly expressed by a philosophical author who has written much upon the constitution of universities. "In Germany," says Meiners,* "even to the present day, the Catholic and Protestant universities are diametrically opposed to each other in most points. In the Catholic universities all, or at least the most important, lectures are public; while, on the contrary, in the Protestant universities, fees are paid by the student for permission to attend them. In the former, the duration, commencement, end, and hours of teaching, as well as the systems, mode of teaching, text-books, and course, which the teachers and the taught are to pursue, are fixed by law. In the Protestant universities, the professors and pupils enjoy as yet an almost unlimited freedom. In the Catholic universities the object is to compel the masters and pupils to do what is thought good for them; in the Protestant it is rather to stimulate them to do well. In the Catholic universities all competition of teachers is purposely prevented; in the Protestant, it is encouraged even beyond what is expedient. In the Catholic universities the lectures are more commonly for the whole year than for six months; in the Protestant the reverse. Lastly, in the Catholic, the lectures are delivered only, or at least most frequently, in public halls; in the Protestant, in rooms in the houses of the individual professors."

Again, "compulsory plans of academic study continue the errors, which it would be desirable to avoid in the lower schools, into the higher. It is unfortunate to be obliged to treat boys, who are very unequal in natural and acquired powers, on the same footing. But it is much worse when this is attempted with young men who differ from each other much more than boys. Plans of study, which are prescribed as in Mayence and the hereditary states of Austria, compel the pupils possessed of genius, knowledge, and industry, to proceed at the same rate as the stupid, ignorant, and idle, and by this very means the happiest dispositions in young men of the greatest promise are destroyed. The contrivers of these plans of study had almost, without exception, the good intention of conferring upon the scholars a very perfect and well-grounded education. They therefore comprised in these plans many sciences which a great many of the pupils either had really no occasion for, or at least considered as superfluous, or for which they had neither inclina-

* Cp. Meiners Ueber die Verfassung und Verwaltung deutscher Universitäten, 2 Th. 8vo, Gott. 1801-2.

tion nor abilities." We think we have said enough of compulsory uniform courses of study!

The second objection is, that "one or even two professors are unable to teach clinical medicine efficiently to the number of medical pupils at present frequenting the University of Edinburgh." As a remedy for this evil, Dr Clark proposes that the number of clinical professors in office at a time should be increased.

The present clinical professors deserve at least the credit of having endeavoured to obviate this objection by doubling their labour, without any additional expence to the student, and greatly to his advantage, by two professors instead of one attending daily, and thus dividing the concourse of students in the wards, while all are admitted to the lectures of both. It is not in their power to go further, as they are under the control of the Managers of the Infirmary, and cannot exclude from the clinical wards the gentlemen who have hospital tickets, and are not clinical pupils. These very generally prefer attending the clinical teachers to going round with the ordinary physicians. This preference of the clinical professors to the ordinary physicians, who are not inferior either in skill or in regularity of attendance, is the best proof that the students find advantages which more than counterbalance any inconvenience arising from number. At any rate, we fear, that, if all the plans of these reformers were to be carried into effect, this objection would soon be at an end, and would not require the enactment of a kind of sumptuary law, limiting the number of pupils to be taught by each professor. Dr Clark has not, however, the merit of being the first to make this objection to the clinical school of Edinburgh, for it did not escape the partial eulogist of that of Dublin, although he had the candour to ascribe it to its true cause, and one of which the professors of Edinburgh have no reason to be ashamed.*

Dr Clark's third objection is, that "the professor has too many patients to examine and prescribe for, during the time allotted to the clinical visit, which ought to have for its object the instruction of the pupil as well as the treatment of the sick." We admit the principle, but deny the application, and we assert that the patients under the charge of each professor are *not* too many. Upon this subject we apprehend that the opinion of the professors who have had long experience in teaching clinical medicine is of greater weight than that of speculative re-

* Comparative view of the Schools of Physic in Dublin and Edinburgh, 8vo, Dublin, 1813. "The celebrity which the school of Edinburgh has obtained is in many respects a source of injury; but in no instance is the effect so evidently produced as in the clinical department. The number of students who attend the Infirmary is so great that they interfere materially with each other."

formers, who have never tried to teach, and know not its difficulties or facilities. The smallness of the clinical wards, and the limited number of patients, were always found to be great drawbacks on the value of the clinical instruction at Edinburgh; and it was at the urgent request of the professors that, by the liberality of the Managers of the Royal Infirmary, the present commodious, we may almost say magnificent wards, have been added to the clinical department. Each of the two attending clinical professors has now two wards under his charge, one smaller, for contagious febrile diseases, and another larger, for diseases of all other descriptions. Although great power of admitting patients is thus given to the professor, it is entirely discretionary with him to admit fifteen or twenty, the number to which Dr Clark would limit them, as to extend them to forty, the number of beds the two wards contain. In point of fact the beds are sometimes found to be too few, because, after they are all occupied, a case of very great interest and rare occurrence presents itself and would have to be refused, and thus not brought under the notice of the clinical pupils, if the clinical professor had not the power of ordering an additional bed, until a vacancy can be made by dismissing patients whose cases have terminated. It is no defect in a system that it is possessed of great power, and it is for the master to whom it is given to judge how far he is able to exercise it with advantage. Those who have tried this increased power do not find it above their strength. What Dr Clark would have the world consider as a defect is therefore in reality a great advantage, and his proposed remedy of diminishing the number of patients under the charge of each professor would be a deterioration. Indeed, when we consider that of the acute cases two-thirds at least are generally in the state of convalescence, and of the miscellaneous cases, nearly the same proportion consists of chronic cases, which require only continual superintendence and occasional investigation, the number of those engaging the attention of the professor and the pupils will not be found to exceed, and in reality does not exceed, the limits assigned by Dr Clark.

Another evident and very great advantage derived from the increased number of beds is the more frequent opportunities of investigating the pathology of those cases which terminate fatally, and of comparing the appearances detected in the body with the symptoms preceding death, and with the opinions formed as to its nature. At present the students have an opportunity of witnessing the examination of the casualties which eighty beds afford, and of having the appearances explained.

The fourth objection of Dr Clark is, that "the clinical lectures are too few;" and the remedy naturally proposed is to in-

crease the number of lectures, which Dr C. thinks should, under no circumstances, be fewer than three in each week. This objection certainly does not now apply to the Edinburgh clinical school, and was rather strange even when only two clinical lectures were delivered each week, because more than two have seldom been given in any other place, nor with greater, or even so much regularity. This is candidly admitted by Dr Clark. "These lectures form an excellent part of the clinical system of Edinburgh, *and are too much neglected in the foreign universities in general.*" p. 11. In Edinburgh at present four clinical lectures are delivered each week, during the winter session, often six, according to the state of the wards, at an average five; which not only far exceeds any thing of the kind in any German university, but is perhaps more than the students are able properly to attend to; and we should not be at all surprised to find it objected by another reformer, that the clinical lectures were too many, and ought to be reduced. Surely experienced teachers are the best judges of what they can teach, and what, under the specific circumstances, should be taught, or what may be learned.

Dr Clark's fifth objection is, that "the pupils have little or no opportunity of acquiring any practical experience under the direction of the professor." The remedy proposed for this is to institute a practical clinic upon the principles of the policlinics of Germany. To this we have only to reply, that, as an optional study, this already exists here in a greater extent than in any place in Germany, and that, as a compulsory university branch of education, it is utterly impracticable.

The last objection made by Dr Clark is, that "the clinical professor retains the charge of the clinical ward for too short a time, and resumes it at too long intervals;" and the proposed remedy is, by making the office of clinical professors permanent, or fixed at least for a series of years in the same individuals. Dr Thomson's observations on the subject of clinical medicine are chiefly intended to press the appointment of a permanent professor of clinical medicine, having no other charge. We very much prefer Dr Clark's plan; but we are inclined to think the present system preferable to either.

Such questions may be investigated in two ways, by referring to past experience, and by reasons of expediency. The general practice of the continental universities which have obtained the greatest celebrity, and where the professors are restricted to certain subjects which they are appointed to teach, is, that the clinical lectures are given by the professors of the practice of physic; as at Padua by Brera, Pisa by Morelli, Bologna by Tomassini; at Pavia formerly by John Peter Frank, and after-

wards by his son Joseph; at Vienna, formerly John Peter Frank, and afterwards Hildenbrand.

In the north of Germany, where, as we have already stated, there is no compulsory study, every professor may teach clinical medicine that possesses the essential qualification of being physician to an hospital; and those who have no hospital, but are desirous of giving clinical instruction, set up their own policlinic, as our lecturers do their several dispensaries. At Gottingen, Himly, as Richter formerly did, unites clinical surgery and medicine in the university hospital, while, of his competitors, Conradi has his own clinical institute, and Langenbeck his surgical hospital. Himly teaches also physiology, human and comparative; general nosology, therapeutics, and materia medica; the nosology and therapeutics of the digestive and respiratory organs, skin, urinary, and sexual organs, and the operations for the cure of diseases of the eyes and ears;—while Conradi teaches also general pathology and general therapeutics, with particular reference to practical materia medica; and special pathology and therapeutics. At Leipsic Clarus teaches special therapeutics and clinical medicine, while Cerutti, who teaches also pathological osteology, has his policlinic; at Berlin, Berends has the clinical medicine in the hospital, and he teaches also the principles of pathology and materia medica, and explains Celsus. Hufeland has the royal policlinic, and teaches practical medicine. It is needless to multiply examples, more especially as the subjects taught by the German professors are varied every year according to their own discretion and pleasure. The most celebrated teachers of clinical medicine in our time at Paris have been Pinel and Laennec; and Dr Thomson could scarcely fail to know that both held professorships, and gave regular lectures, distinct from their clinical duties; Pinel in the *École de Médecine*, and Laennec in the *Collège de France*. In short, there is hardly an example of the office of teacher of clinical medicine being separate from other charges, and these of the most multifarious kind.

Contrary, however, to the practice of the best universities on the continent, Dr Thomson is for disjoining the teacher of clinical medicine altogether from the existing chairs. We feel assured that so harsh a measure will not be taken, unless upon the strongest evidence of its expediency. This clinical school was established by the professors of the Medical Faculty, with the concurrence of the Managers of the Royal Infirmary, and under their management it has maintained its reputation, we will venture to say undiminished, for nearly a century. During the last session the number of clinical students attending was not only greater than was ever before known, but bore a greater

proportion to the whole number of medical students. Whether any legal right has been thus acquired, it is needless to inquire, as we are willing to meet the question on the grounds of expediency. We are willing to concede, that a professor, who devoted his whole time to the teaching of clinical medicine, should teach it well; but from having no other academic duty, he would be more apt to employ the time not necessarily occupied in his clinical occupations, in pursuing private practice, or following other pursuits not academical. Besides, were the whole clinical teaching confided to one individual, the great improvement lately introduced, of having two professors dividing the attending students, would be lost. It is also an important consideration, that the discharge of the clinical duties requires a constant state of vigorous health, which cannot be expected in any individual; nor could his place be well supplied upon an emergency, by a colleague altogether unaccustomed to the details. The natural decay of advancing years must at last unfit every man for the discharge of so laborious an office, and often long before his decease. An assistant might then, no doubt, be appointed, but his proper remuneration would be a matter of difficulty, and there would a constant risk of this most important chair being inefficiently filled. Another danger would arise from the total want of competition; for whereas all the other subjects are ably taught by non-academical lecturers, whose tickets are received by the college of surgeons, and other public boards, the clinical teacher alone, from want of other hospitals, has no such competition to stimulate him to exertion, but under the present system its good effects are secured by the friendly emulation existing among the professors themselves. Dr Thomson seems to have been aware of this objection, and has suggested that the ordinary physicians of the hospital should be encouraged to give clinical lectures; in which suggestion we agree with him, even were the academical clinical teaching to remain on its present footing, as there would then be no hardship in excluding from the academical clinical wards all students except those attending the lectures of the professors. Were there but one clinical professor, moreover, the students would have little opportunity of seeing any variety of practice; and it is undeniable that almost every practitioner falls sooner or later into a routine, from which, especially in advanced life, he seldom deviates.

Even upon the clinical instruction, therefore, we think that the present system of voluntary rotation confers advantages, by securing always an adequate number of efficient teachers. Indeed this has appeared to some so great an advantage, that when at one time, owing to the causes we have pointed out, a smaller number of the faculty undertook the clinical duty, the

Dublin and Edinburgh schools were thus contrasted, to the advantage of the former. "In Dublin, the six professors of the school of physic fill this office in rotation, holding it each for three months. In Edinburgh, it is exclusively confined to two of them." *Comparative View*, p. 36.

But upon the professors teaching the various branches of medicine, even those less directly connected with its practice, their taking their turns of the clinical lectures has effects of the most advantageous description. They are thereby led to preserve more directly the connection of their respective chairs with the profession, of which otherwise they might lose sight too much. It is urged that a professor of chemistry or botany might be appointed, who was not a physician, and incapable of giving clinical instruction. This is no doubt true; but in this university it has never happened, and it rests with the patrons to prevent the occurrence; because, if they judge it right to give the appointment of Professor of Chemistry or of Botany to a person whom they do not think qualified for the office of clinical teacher, they have only to withhold from him the title of Professor of Medicine. Even if no precaution were taken, there is little danger of any one inadequate or not a zealous cultivator of practical medicine engaging in this duty. Many of the Edinburgh Professors, although enjoying the privilege, have never availed themselves of it. On the other hand, being profoundly learned in the accessory branches does not disqualify a physician from being a good clinical teacher. When Cullen began he was Professor of Chemistry; Monro was Professor of Anatomy; Whytt of the Institutes; D. Rutherford of Botany. On the continent also we find the like connection; Boerhaave, when teaching clinical medicine at Leyden, then the first university in Europe, taught likewise both botany and chemistry. To the other chairs, the practice of physic, materia medica, and the institutes especially as connected with pathology, hospital practice is almost indispensable. To the cultivation of these branches, private practice, even the most extensive, contributes little. The professors cannot bring the knowledge derived from books, and the new medicines and practices recommended to the sure test of experience, nor decide by personal experience and the frequent examination of the bodies of the deceased, anywhere else nearly so well as in hospitals, and in the presence of their pupils.

There cannot be a doubt that giving clinical lectures, instead of distracting the attention of the medical professor from his peculiar province, increases greatly his fitness for teaching it. This is the opinion of the most philosophical writers upon the subject. "The practical teacher, when at the bedside of a patient, is in his true and almost only infallible place of study. Here he draws from nature herself, and if he renounces this

sketch to study copies, and to seek in books the fancies of a heated imagination, it is evident how little he and his pupils will benefit from it.”—Frank. “*La pratique médicale est fondée sur l’expérience ; ceux qui prétendent à l’enseignement public, doivent donc avoir vieilli dans les hôpitaux, dans l’exercice de la médecine clinique.*”—Gilibert ; *l’Anarchie Médicale*. Accordingly, Dr Clark admits, that “when the Medical Professors of the university have the time and inclination to take part in the charge of the clinical course, as an equally regular and fixed duty with that of their other professorships, they should be preferred.” p. 22. We are not inclined to quarrel with any man because he differs from us in opinion. We grant to others the same liberty of thought that we claim to ourselves ; but we confess, that we feel hurt in being told, that at Edinburgh “the clinical duty appears rather a secondary consideration.” On this point we conceive ourselves to be better informed than strangers can be ; and we appeal confidently to the hundreds of clinical pupils who have attended the present professors, whether the regular exercise of their clinical functions has not always been with them a paramount duty. Indeed this is admitted by Dr Clark, when he says that he “can most sincerely affirm his belief, that in no university in any country are men to be found more highly qualified for teaching clinical medicine, or more conscientiously disposed to perform the duties of clinical professors.” If so, we might presume that they would be the persons best qualified to make improvements on the system.

Dr Clark considers it as a bad regulation that the professors of the medical faculty should be allowed to “take upon them the duties of clinical professor, or not, just as suits them.” We hold the opposite opinion, and contend, that it is this liberty which has always secured for the Edinburgh school, willing, zealous, and competent teachers of clinical medicine.

It is also objected to the present system, that the rotation of clinical teachers is too quick ; and the arguments which were used by Dr Gregory against the quick rotation of surgeons of the Royal Infirmary, formerly in use, are brought up in array against the clinical professors, and are said by Dr Thomson, to be applicable, *mutatis mutandis*, to the present system of medical clinical instruction. This was not Dr Gregory’s opinion, for in the very same memorial he was at pains to point out the difference, in answer to Mr John Bell, who attempted the same line of argument as Dr Thomson. This passage has not been quoted by Dr Thomson ; we shall supply the defect.

“It may be observed, that, in the long passage last quoted from the answer to me, Mr John Bell labours hard to point out some resem-

blance between the system of indiscriminate attendance of the surgeons by rotation, and the attendance of several of the professors of physic in rotation, with a view to give clinical lectures, and of course states the matter in such a way as to give the preference strongly to the mode of attendance of the surgeons. Whatever resemblance there may be between the two cases, there can be no difficulty in pointing out an infinite difference between them. In the first place, the number of medical professors in this university is but small. There are but six such professorships, and sometimes two of these, that of Botany and Materia Medica, have been held by the same person. The professors of physic, whatever their merit or demerit may be, have at least been *selected*, by the patrons of the university, from among a great number of physicians, who would have been ambitious of that appointment. The patrons of the university have not even confined themselves to a choice among the great number of physicians settled in Edinburgh. They have occasionally given the appointment of medical professor in this university to physicians who had acquired reputation as professors in other universities.

“Such was the case with Dr Cullen, Dr Black, and the present Dr Hope, who were well known and highly esteemed in the university of Glasgow, and with my father, who had exerted himself to the utmost in teaching several branches of medicine in King’s College, Aberdeen, before they were appointed professors in the university of Edinburgh. From such examples, and from the still more striking general fact of the high reputation which the medical school of Edinburgh acquired in less than half a century, it may fairly be presumed, that the patrons of it were equally honest and public-spirited, in the choice which they made of the other medical professors, and that upon the whole they have been tolerably successful in that matter; though no doubt Mr John Bell and his clients will think it right to make a great deduction from their credit in that respect, on account of their having twice bestowed the appointment of professor on so ignorant and worthless a person as their very humble servant.

“Nobody can suppose that the patrons of the university shall always be directed by a kind of inspiration, to make choice of men of superior genius, as professors of physic, or of any other science in this university. Nor can any body suppose that their appointment to a professorship is to confer talents on a man which nature had denied him. But though I am, by their appointment, one of the medical professors myself, I must do them the justice to say, that they have had the sagacity to contrive, and the honesty to employ very faithfully, a simple but effectual expedient to prevent their professors from being either ignorant or lazy. The expedient is indeed so admirable and infallible, and withal so cheap, that it ought to be generally known. It consists in giving us very small or no salaries, so that our emoluments, which for a long time past have been very considerable, arise almost entirely from the number of our pupils, and this again from our own diligence in learning and teaching the several branches of science which we profess. I trust

Mr John Bell and his clients will know where I got the two following lines, and, whatever they may think of the poetry, will at least acknowledge the truth of them.

*Qui docet indoctos, licet indoctissimus esset,
Ipse brevi reliquis doctior esse queat.*

"A professor of physic in this university who does not seriously study and understand his own profession, must, in the first place, become an object of contempt to his colleagues and to the students; and, in the next place, he must starve, for the students will not attend his lectures, and the reason of this must be immediately and generally known.

"On these principles, I should conceive, *a priori*, that there must be an infinite difference between the attendance of the whole six medical professors by rotation in the clinical wards, if this should ever happen, and the attendance of twenty, thirty, or forty surgeons by rotation in the surgery wards, just to acquire a little experience and dexterity in their profession. But the well known fact with respect to the attendance of the medical professors in the clinical wards, puts this point in a much clearer and stronger light." *

Here follows the passage quoted by Dr Thomson, p. 42, Additional Hints.

In another passage Dr Gregory gives some additional explanation concerning the effect of the rotation of the clinical physicians, quite sufficient, as we conceive, to set aside the objection of Mr John Bell and Dr Thomson to the present system.

"*The first physician comes out in November, fills his ward, assort his diseases, writes notes and regular reports of his patients complaints, completes his experiments, lectures on their cases, and then empties these wards, by delivering his patients over to the ordinary physicians, or by actually dismissing them from the house.* Every clinical professor I believe makes it a rule to take in very few new patients for some time before he ceases to attend in the clinical wards, so that when his time is expired he may not leave any great number of patients whom it might be inconvenient to his successor to keep in those wards, or to the ordinary physicians to receive at once into theirs. This, which cannot be done in the common wards, either medical or chirurgical, *Patet omnibus* being the fundamental rule and well known motto of this infirmary, is easily accomplished in the clinical wards, by taking in, during the few last weeks of the professor's attendance, only acute cases, or some of the most urgent of the chronic. But when it happens that there are in the clinical wards patients labouring under obstinate chronic diseases, who are so uncivil that they will neither die nor recover, such patients as Dr Cullen used emphatically to call the *stick-fasts* of a clinical ward, in plain common sense, the best thing that can be done for them, is to commit them to the care of another physician. This is giving them every chance for recovery, and it is even positively en-

* Additional Memorial to the Managers of the Royal Infirmary. By James Gregory, M.D. &c. 4to, Edinburgh, 1803.

joined by the rules of the infirmary, with respect to the patients of the ordinary physicians. And as to the convalescents, who must occasionally be left by a clinical professor in the hospital, it is hardly conceivable that they should suffer any injury by going under the care of another physician."

If the clinical teachers should become satisfied that their rotation is too quick either for the good of the patients, or for the advantage of the pupils, the remedy is easy, and in their power. But the inconveniences of quarterly rotation have been greatly exaggerated. In some respects it is preferable to the same teacher continuing longer in attendance. Medicine is now cultivated chiefly as a science founded upon observation and experience, and there is little danger of students being distracted by opposite dogmatic principles. The treatment of some diseases is well understood, and the whole difference among practitioners is in their degree of activity. In witnessing such diseases under the care of different teachers, the pupil has an opportunity of judging for himself how far nature, with a little assistance, is able to effect a cure, or how far interference with her efforts may be carried, with advantage or with safety. In another set of diseases no plan of treatment is so decidedly beneficial that it is universally preferred; and very often the palliation of symptoms is all that we expect, or can obtain. In these diseases, after one kind of treatment, or even many varieties of treatment have failed, another may succeed. Practitioners, even the most skilful, are very apt to fall into a routine practice which is too little varied in different circumstances, and the pupil, after becoming acquainted with it, relaxes in his attention. On the patient suffering under obscure and chronic disease, the change of practitioner has often marked good effects, by the stimulus of excited hope, and by the change of remedies which, from continuance, had lost their influence. The opportunity of observing a variety of practice in such cases does not confound the judgment, or shake the principles of an intelligent pupil, but, on the contrary, has upon his mind salutary effects far more valuable than the system of inculcating dogmatic principles and routine practice. It is to this circumstance that we may chiefly ascribe that readiness to receive new information, that liberality of understanding, that independence of sentiment, that habit of thinking and reasoning, *nullius in verba magistri*, for which the Edinburgh pupils have been long distinguished.

Additional optional clinical study cannot be too strongly recommended, and the high estimation in which it is held by the medical faculty is evident by the privilege conferred on hospital attendance, in shortening the period of academical instruction.

But we doubt whether the kind of clinical study, recommend-

ed by Dr Clark to be increased as a compulsory measure, is altogether the best, viz. the addition of a whole session of clinical surgery, and another of attendance at the practical clinic.

While far from denying or detracting from the value of clinical surgery, we cannot avoid noticing the unwarranted partiality shown in the pamphlets before us to this branch over clinical medicine, as they are at present taught at this school ; for all the objections brought forward to the latter apply more strongly to the former, besides others peculiar to itself. These objections arise from circumstances which it is not in the power of the highly esteemed professor, or of his able coadjutors, to remove. The professor, from having no patients under his own immediate charge, and being thus obliged to lecture upon the cases of patients treated by other surgeons, cannot possibly render his lectures truly clinical. He cannot lay down a plan of treatment which it is his intention to follow ; he cannot fully explain the reasons which may have guided the practice of the attending surgeon ; and his delicacy will not permit him to comment with freedom upon errors in diagnosis, prognosis, and treatment, as discovered by examination after death. Yet the exposition of the fallibility of our skill is one of the most valuable parts of clinical instruction. Again, if the course of clinical medicine be too short, that of the surgery is still shorter ; the one being continued uninterruptedly during the whole winter session, the other leaving two of the six months unemployed. If one or even two medical professors are too few to teach the number of medical students of Edinburgh, how is one surgical professor to teach all these students, with the addition of the numerous surgical students who do not attend clinical medicine ? We cannot help adverting to the predilection for surgery evinced in the repeated pressing of its extended study in various forms upon students who do not mean to practise it, while there is no recommendation by these reformers, so careful of the public weal, of attendance upon clinical medicine for those students who mean to content themselves with the surgical diploma, although to them it is as useful as to the medical graduate ; for it is medicine, and not surgery, that is the business of the great mass of surgeons and general practitioners.

On this subject we suggest the following method of extending clinical instruction as practicable in the first instance, leaving it to be further extended, if it be found that it does not press too hard upon the students.—Let three courses, of three months each, be given of clinical medicine and of clinical surgery, and let it be required of the medical graduate to take two courses of the medicine, and one of the surgery ; and of the surgeon to take two of the surgery, and one of the medicine. This should, however, be accompanied with a regulation, by which those

gentlemen, numerous with us, who have already taken the surgical diploma in other schools, as London or Dublin, and do not come to Edinburgh for surgical instruction, should be exempted from the attendance on our clinical surgery.

The policlinics of Germany seem to have fascinated Dr Clark, and yet it appears to us that he has not understood them in all their bearings. Even as to the name, expressive of its meaning, he is wrong. He tells us that the *polyclinic* is "so called from the much greater number of patients seen at this than at the hospital clinic." p. 7. But our German friend writes us, that the term is *policlinical*, from *πολις*, a city, not *polyclinical*, from *πολυς*, much. Hufeland's valuable reports, which we always peruse with much satisfaction, are of the Royal Policlinical Institute of Berlin. In short, in plain English the policlinics are city dispensaries, and the only novelty consists in the name.

Dr Clark's suggestion proceeded on the idea, that attendance at a policlinical institution is a branch of University education, and necessary on the continent for obtaining a degree; but this is not the case. They are entirely private concerns, established by individual teachers, and attendance upon them is no more compulsory than attendance on our dispensaries. Their insertion in the University programme of the classes taught, is according to the practice of inserting every thing which any professor teaches or offers to teach, whether connected with any profession or not. Thus Wrisberg, the anatomist at Gottingen, advertised in the University schedule, and delivered lectures on the objects to be seen in a journey from Trieste to Vienna, and illustrated this subject by an extensive collection of engravings. Our German correspondent says that the policlinics "are usually arranged by an agreement between the Professors and the Town Council, as they take a domiciliary care of the sick poor; less frequently the government takes an interest in these matters; but the hospital clinics being confided to the senior professors, the younger professors are usually confined to embrace only the policlinicum." These are the words of our valuable and learned correspondent, which we have left unchanged, that we may not misrepresent his meaning, which appears to us to be that the policlinic is undertaken by, or entrusted to the younger professors only.

From the following account given of the Royal policlinic of Berlin in the University Calendar, it is evident that *attendance upon it is optional*,—and that the liberty of practising under the superintendence of the teacher, recommended as essential to all our graduates, is limited to twelve only of the numerous students in the metropolitan University of the Prussian dominions.

"The apartments of the Policlinical Medico-Chirurgical Institution of the University are in the University Buildings. They consist of a hall, and a clinical laboratory for the instruc-

tion of the students in the knowledge and dispensing of medicines. In this hall, the director, his two assistants, and the students, meet daily, partly for the purpose of admitting and giving advice to new patients, and partly to receive reports upon the cases of those under treatment. The poor patients are furnished with medicines *gratis*, at the expence of the king; those confined to bed are visited in their houses, and, when necessary, furnished with food, fire, wine, &c. at the expence of the institution. The average number of patients treated annually is from 1000 to 1200. The students who attend the institution are divided into two classes, hearers and practitioners; and of the latter the number is *limited to twelve*, and these must have previously given sufficient proofs of their skill.* In fact, they have almost all previously taken their degrees; as in Edinburgh many of our graduates remain for a term to become practising pupils at the dispensaries.

As an optional method of acquiring professional experience, the Dispensaries in Edinburgh will bear a strict comparison with the most renowned Policlinic of the north of Germany, and, taken together, they give practical instructions to many more pupils than the Policlinic of Berlin.

But if we understand Dr Clark's proposition, it is, that a year's attendance upon an University Policlinic be compulsory on every candidate for a degree of medicine; in which case his plan is visionary and impracticable, not only in Edinburgh but in Berlin. The medical officers of our dispensaries find two practising pupils each as many as they can look after consistently with their duty of making themselves acquainted with each case; and if there be a hundred candidates in a year, there are not teachers enough, even if the whole medical officers of all the medical institutions of Edinburgh were employed. Much less can such a mode of teaching be limited to professors in the university. The Senatus Academicus have shown how much they value this mode of clinical instruction, by allowing one of the four years of professional study, now made imperative, to be employed in attendance upon the study of medical or surgical practice in any hospital of sufficient size; thus conferring on the medical officers of every large town in the kingdom the status of a policlinical teacher. It is right to mention, that since the additional wards have been put under the charge of the clinical professors, arrangements have been made, by which about twenty-five students may be annually employed as clerks in these wards alone. If we add to them the gentlemen employed as clerks to the ordinary physicians and surgeons of the hospital, it will appear that nearly one-third of the graduates of

* Jahrbuch der Königlich Preussischen Universitäten, Erster Bändchen, 8vo, Berlin, 1824.

each year may in future be initiated into the duties and responsibilities of their profession, in the Royal Infirmary only, besides what is done in the dispensaries.

It is quite a mistake, however, to suppose, and in fact is not expected by the public, that graduates are to be sent from the university experienced practitioners. All that can be done in schools is to prepare them for benefiting by experience as opportunities offer. These opportunities of acquiring experience do offer to all, both during and after the period of their studies, first, as spectators of the practice of others, afterwards as assistants to senior practitioners, and lastly, as practitioners themselves. A great school may take cognizance of all such means of practical improvement, wherever employed, but cannot itself afford instruction in all these ways to all who may find their advantage in resorting to it. Nor can such instruction be limited in time, more than in place. As long as we live we are acquiring experience. The object of clinical instruction in a great school is to give the greatest experience in the shortest time; and this end, in a numerous class of students, is more effectually attained by the whole observing the practice, and hearing the remarks of the teacher, than by each attempting to practise before the others. Those who have ever tried this mode of teaching know what a waste there is of time, and how irksome it is to the whole class.

To the plans of improving the teaching of clinical medicine, proposed by those who never tried it, we may apply in general the language used by Frank in regard to the project of Olivari, submitted for his opinion by the senate of Genoa. "Je regard donc le dit projet plutôt comme la *metaphysique* de la *clinique*, que comme un plan de reglement pour l'instruction des jeunes medecins;" and he adds, "un plan d'école clinique à mon avis, doit laisser plein liberté au professeur, qui doit entrer en cette carrière, la manière dans l'examen, dans la disposition des maladies, et ne doit fixer que les principes d'administration et une méthode simple et aisée, qui puisse conduire à la meilleure education du jeune praticien."*

Dr Clark has alluded to the clinical attendance given in some foreign countries after graduation, before the liberty of practising in these countries is conceded. This, therefore, has no reference to the curricula for graduation; and its enforcement belongs to the Legislature, and to the Royal Colleges of Physicians, not to the universities. In the northern universities, such as that of Berlin, it is not understood to be a method of giving additional clinical instruction, but is a mode of state-examination, whether the *Doctor* already promoted has sufficient

* Plan d'Ecole Clinique.

practical skill, as well as theoretical science, to obtain the right of *free practice* in that particular state.

Before concluding our observations on this subject, we must take notice of Dr Clark's assertion, "that the value of clinical instruction has been very differently estimated in this country and on the continent;" and that it has never received in this country the consideration which its importance among the branches of medical education demands. We are at a loss how to reply to this assertion. It is only within these few years that clinical medicine has received on the continent that consideration among the branches of medical study which it has held in the school of Edinburgh almost from its commencement. Dr Clark himself admits that the university "has been indebted to her clinical school for much of her reputation." At this time it is the best clinical school in the British empire. Neither in the English Universities, nor in London, are any regular clinical lectures delivered. That of Dublin is yet "in its infancy."*

The regular teaching of clinical medicine is of very recent date in France. Prunelle in 1816 reproaches his native country with the tardy introduction of clinical instruction. "C'était donc en vain que la renommée publiait depuis long temps les succès des cliniques de Leyde, de Vienne, d'Edimbourg, et de Pavie; aucun institution de ce genre ne s'élevait parmi nous, et la France a vu naître l'enseignement clinique presque au milieu de la plus effroyable tourmente,"† p. 59.

Even in Germany it was very imperfectly taught as a branch of university education, except in Vienna. Indeed, the smallness of the cities in which the most celebrated schools were seated, as Gottingen, Halle, Jena, precluded the necessary supply of patients, which rendered the introduction of the polyclinical system almost a matter of necessity. Frank in 1790 quotes‡ Edinburgh and Vienna as "*les meilleures écoles cliniques*;" and in 1817¶ he still thinks it necessary to combat such arguments as the following against the propriety of establishing them.

"The opportunity of acquiring practical skill is foreign

* "The exclusion of the certificates of other universities has, with respect to clinical tickets at least, been, by a distinguished physician defended, on the ground that such monopoly is necessary for the protection of the Dublin clinical chair as an institution yet in its infancy." Observations relative to some Defects of the Medical School of Dublin, in a letter to the Board of Trinity College. By John Clendinning, A. M. M. D., 8vo, Dublin, 1827. This may indeed justify Dr Clark's assertion as to the little consideration given in this country generally to clinical medicine, but not in reference to this university, to which his remarks must be understood to apply.

† Des Etudes de Medicin, 4to, Paris, 1816.

‡ Plan d'Ecole clinique; ou methode d'enseigner la pratique de la medecine dans un hopital academique. Par Jean Pierre Frank, 8vo, Vienna, 1790.

¶ System, Vol. vi. p. 335 and 441.

to the purpose of a university, and it may become injurious, by misleading the students to neglect their proper university pursuits, the acquisition of profound scientific knowledge.”*

“In fact, it is not easy to define accurately the limits between theoretical and practical academical instruction; and much depends upon beginning the practical exercises neither too soon nor too late, and upon attending to them neither too much nor too little. Upon the whole, it seems less injurious to begin practice too late than too soon, and to blend too little than too much of it with the other studies. The object of practical instruction at universities is rather to excite the attention of the pupils to the practice of their teachers, by ocular demonstration and clear explanations, than to impart to them a more than common degree of skill.” p. 442.†

The policlinic is an institution of very recent formation. The first seems to have been established by Hufeland at Jena, at least as early as 1794.‡ The Berlin policlinic was instituted also by Hufeland in 1810. We leave our readers to judge how far it can be justly said of Edinburgh, that she will “be ultimately compelled to follow in the march of improvement which she should have led.”

It has become customary to accompany and enforce the various recommendations of reforms in our medical school, with which we have lately been favoured, with terrible denunciations of the fate that awaits us, if we obstinately adhere to our old institutions, and neglect the warning voice. We are to be doomed to follow where we ought to have led; our halls are to be deserted, and our names forgotten, &c. &c. If this be meant only as a “hint of what we can do in the sublime,” we should be sorry to deprive our friends of so copious and easy a theme of declamation; but if any of our readers suppose that the conduct of this university, in regard to medical education and the medical degree, really calls for such animadversions, we beg to remind them, *first*, that it was *in this university* that the additional year of study, and the increased hospital attendance, (certainly the truly important parts of the changes lately made in different schools of medical education,) were first made imperative on medical graduates; and *secondly*, that it was the *avowed willingness* of the medical professors here, to make certain reforms, and to consider of others, which brought

* Wedekind, Ideen zur Polizey der Heilkunde; in Kopp's Jahrbuch der Staatsarzneykunde, vii Jahrgang.

† Weber, Versuch ueber die Errichtung und Einrichtung der Universitäten, 8vo, Berlin, 1805.

‡ Nachrichten von der medicinisch-chirurgischen Krankenanstalt zu Jena in Hufeland's Journal der practischen Arzneykunde und Wundarzneykunst, 8vo, 3ter Bd. Jena, 1797.

the subject before the medical public, and gave Dr Thomson and Dr Clark themselves the opportunity of addressing to the patrons and professors of the university, the very suggestions which we have now been considering.

In fact, the alterations that have been made here, in the last few years, both in the mode of teaching, and in the amount of study demanded, have been extensive and important. The medical professors are far from claiming to themselves the credit of all these changes. Much is due to the liberality of Government and of the Commissioners for College Buildings, and we willingly add, to the Patrons of the University; and much to the zeal and ability of other lecturers;—but all the changes to which we allude are clear gain to the medical students of Edinburgh, and contribute to qualify them for the medical degree.

The extensive anatomical museums, belonging to the University and to the College of Surgeons, are now arranged and exhibited regularly; the students of chemistry have the advantage of excellent opportunities, both within and without the university, of acquiring minute and practical acquaintance with that science; the lectures on botany are delivered in a splendid and daily improving garden, and are much more numerous and minute than formerly; the lectures on *materia medica* are illustrated by the performance of many of the pharmaceutical processes, and by the exhibition of a large and increasing museum; we need not say that the kindred sciences of natural history and comparative anatomy are taught both by lectures and by the exhibition of museums, in and out of the university, in a style of excellence formerly unknown in this country; the class of the practice of physic, formerly overburdened, has been relieved, and at the same time, instructions which may always be expected to be practically valuable, in regard to the diseases peculiar to women and children, have been secured by the extension of the lectures of the professor of midwifery; on all practical subjects there are able and zealous private lecturers; and the opportunities of clinical instruction in the clinical wards alone have been more than doubled, besides the establishment of additional dispensaries, which act as practical schools, and are under good regulation.

The practice of examination of their respective students by the professors has been introduced into several classes, and may probably be carried farther, though the professors do not wish to come under an obligation as to the extent to which they may find themselves able to undertake this laborious duty. The examinations for the degree are stricter and more minute than at any former period, extending, in the case of almost every individual, to two hours, and in many, by adjournment, to four

hours;* and an arrangement is now under consideration, and will, in all probability, be carried into effect next season, by which we have no doubt these will be materially improved, viz. the division of each private examination into two parts, one before the professors of the more elementary, and the other before those of the more practical branches, with an interval, never less than some weeks, between the two. By these means the distraction and embarrassment naturally resulting from the great variety of subjects on which the candidate has now to prepare himself for a single examination, will be diminished, and the examinations may in consequence be rendered still stricter, without being in reality so formidable, at least to a student of regularly industrious habits.

To the alterations lately made in the course of study requisite for the degree, (and which are detailed and explained in our twenty-third volume, p. 421,) we shall only advert, on the present occasion, to observe, that next year will be the first in which the candidates will be required to conform to these new regulations, and that, in our humble judgment, it will be prudent to have some little practical experience of the working of the new system, before proceeding to farther changes in this department. It will be seen from what has been said above, that others are already in the contemplation of the professors. Of course we know nothing of the views of the Royal Commissioners; but we have no doubt that we shall carry our readers along with us when we say, that, in order to prevent well-grounded complaints and endless confusion, any future statutes affecting the course of study ought to be accompanied by the same explanatory clause which unluckily gave so much offence to our worthy Patrons in the last, *that they shall only be imperative on those who shall commence their medical studies subsequently to their publication.*

It has been said that the medical professors of Edinburgh are inferior to their predecessors. They can take no credit to themselves for modesty in admitting this fact, being persuaded that, if it be a disgrace to be inferior to such men, it is a disgrace which they share with all their professional brethren of this age and country. But when it is farther said or insinuated, that they are "grown impotent of toil," and careless of the duties they owe to the university and to the public; they will fearlessly appeal to the testimony of thousands in support of the assertion, that they devote their faculties, such as they

* In proof of the importance of strict examination, particularly on anatomy, we may mention, that although the opportunities of dissection in universities are not such as to enable the Senatus to make a course of practical anatomy absolutely imperative on graduates, there has been hardly an instance, within the last three years, of a candidate coming forward who had not gone through at least one such course somewhere; and a great majority have had more.

are, to the duties of their station, as willingly and faithfully as any of their predecessors. If they hesitate to adopt all the suggestions of speculative reformers for the improvement of medical education, it is not because they are unmindful of that part of their duty, but because they are convinced that in this country the qualifications required of those who are to enter a practical profession, and to have no monopoly of its exercise, must be limited by the practical demands of the public; that if the requisitions of universities for the medical degree are pushed farther than these demands justify, the ultimate result must be a diminution, not an increase, of the average attainments of practitioners;—and that the way to judge of the actual demands of the public is, not by the speculative opinions or wishes of individuals, however learned and respectable, but by the evidence of facts.

To conclude: Reforms in education, like improvements on government or legislation, ought neither to be rashly nor extensively attempted; but, rising out of the events and circumstances of the persons educated, they should be deliberately introduced according as the experienced teacher, who observes the enlarging views of successive generations of students, discovers that the progress of science and the wants of society demand more extensive, more minute, and more various information. Professor Jardine of Glasgow, whose opinion on these subjects has deservedly obtained so much consideration, has expressed himself thus strongly in regard to the source from which beneficial reforms in education are to be expected.

“It is, however, worthy of remark, that whatever changes for the better shall be made on our system of education, they must begin with the teachers themselves. The art of teaching, like all other arts, is chiefly founded on experience. Improvements, therefore, are not to be expected from legislators and politicians, who have many other objects to engage their attention, nor even from men of science, unless they have had experience in the business of education.”* In quoting this passage we do not mean to express a doubt as to the propriety of our academical regulations being subjected, both to the public scrutiny and to the judgment of such individuals as compose the Royal Commission. We expect nothing but advantage from both; and we are confident that those, who are the best qualified to form a judgment in regard to them, will be the least disposed to do so, without first carefully considering such explanations as we have given in this article, many of which can be furnished only by persons themselves engaged in the duty of teaching.

A. D. Jr.

* *Outlines of Philosophical Education.* By George Jardine, Professor of Logic in the University of Glasgow. 8vo, Glasgow, 1825.

